

In the claims:

✓
Please enter the following amendments:

Σ 1. (Currently Amended) A method for inhibiting unwanted activation of a ~~hedgehog-patched pathway~~ unwanted cell proliferation in an animal, comprising administering to the animal a composition comprising an effective amount of a purified organic molecule having a molecular weight less than 750 amu ~~in an amount sufficient to reduce the activation of the hedgehog-patched pathway in a cell~~, wherein the organic molecule interacts with *smoothened* and lessens the severity of a *hedgehog* gain-of-function, *patched* loss-of-function, or *smoothened* gain-of-function phenotype.

2-14. (Cancelled)

15. (Currently Amended) The method of any of claims 1, wherein the organic molecule inhibits hedgehog-mediated signal transduction with an ED₅₀ of 1 mM or less.

16. (Currently Amended) The method of any of claims 1, wherein the organic molecule inhibits hedgehog-mediated signal transduction with an ED₅₀ of 1 μM or less.

17. (Currently Amended) The method of any of claims 1, wherein the organic molecule inhibits hedgehog-mediated signal transduction with an ED₅₀ of 1 nM or less.

18-19. (Cancelled)

20. (Previously Presented) The method of claim 1, wherein the organic molecule is administered as part of a therapeutic or cosmetic application.

21. (Cancelled)

22. (Currently Amended) The method of claim 1, wherein the organic molecule is administered as a topical formulation to skin ~~to inhibit aberrant proliferation of epithelial cells.~~

23. (Previously Presented) The method of claim 1, wherein the organic molecule is administered to the patient to inhibit growth of a basal cell carcinoma.

24-26. (Cancelled)

Σ
cont.

27. (Currently Amended) A method for inhibiting unwanted ~~activation of a hedgehog-patched pathway~~ unwanted cell proliferation in an animal, comprising topically administering to the animal a composition comprising an effective amount of a purified hedgehog antagonist ~~in a sufficient amount to reduce the unwanted activation of the hedgehog-patched pathway in a cell of the animal,~~ wherein the hedgehog antagonist is an organic molecule having a molecular weight less than 750 amu and which interacts with ~~binds to~~ *smoothened* and lessens the severity of a *hedgehog* gain-of-function, *patched* loss-of-function, or *smoothened* gain-of-function phenotype.

28. (Currently Amended) A method for inhibiting unwanted ~~activation of a hedgehog-patched pathway~~ unwanted cell proliferation in an animal, comprising topically administering to the animal a composition comprising an effective amount of a purified hedgehog antagonist ~~or~~ prodrug form thereof which is converted to a hedgehog antagonist under physiological conditions of the host animal, ~~in a sufficient amount to reduce the unwanted activation of the hedgehog-patched pathway in a cell of the animal,~~ wherein the hedgehog antagonist is an organic molecule which interacts with *smoothened* lessens the severity of a *hedgehog* gain-of-function, *patched* loss-of-function, or *smoothened* gain-of-function phenotype.

29-35. (Cancelled)

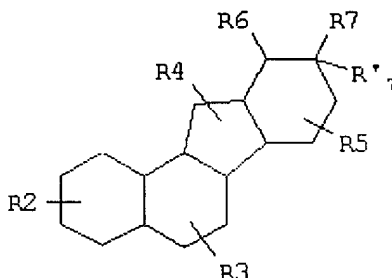
36. (Currently Amended) A method for inhibiting unwanted ~~activation of a hedgehog-patched pathway~~ cell proliferation in an animal, comprising providing a cell,

treating the cell with a test compound, wherein the test compound is an organic molecule having a molecular weight less than 750 amu,

Σ¹
cont. detecting a decrease in the level of ~~activation of a hedgehog patched pathway~~ unwanted proliferation in the cell indicative of a *hedgehog* inhibitory activity of the test compound, and administering to the animal a composition comprising the test compound having a *hedgehog* inhibitory activity in an amount sufficient to reduce the ~~activation of a hedgehog patched pathway~~ unwanted proliferation in a cell of the ~~patient~~ animal.

Σ 2
37. (New) The method of claims 1, 27, 28, or 36, wherein inhibiting unwanted cell proliferation comprises treating medulloblastoma.

38. (New) The method of claims 1, 27, 28, or 36, wherein the composition comprises a compound represented in the general formula (I), or unsaturated forms thereof and/or seco-, nor- or homo-derivatives thereof:



Formula I

wherein, as valence permits,

R₂, R₃, R₄, and R₅ independently for each occurrence, represent one or more substituents selected from hydrogen, halogens, alkyls, alkenyls, alkynyls, aryls, hydroxyl, =O, =S, alkoxy, silyloxy, amino, nitro, thiol, amines, imines, amides, phosphoryls, phosphonates, phosphines, carbonyls, carboxyls, carboxamides, anhydrides, silyls, ethers, thioethers, alkylsulfonyls, arylsulfonyls, selenoethers, ketones, aldehydes, esters, or -(CH₂)_m-R₈; R₆, R₇, and R'₇ are absent or represent, independently for each occurrence, halogens, alkyls, alkenyls, alkynyls, aryls, hydroxyl, =O, =S, alkoxy, silyloxy, amino, nitro, thiol, amines,

imines, amides, phosphoryls, phosphonates, phosphines, carbonyls, carboxyls, carboxamides, anhydrides, silyls, ethers, thioethers, alkylsulfonyls, arylsulfonyls, selenoethers, ketones, aldehydes, esters, or $-(CH_2)_m-R_8$, or

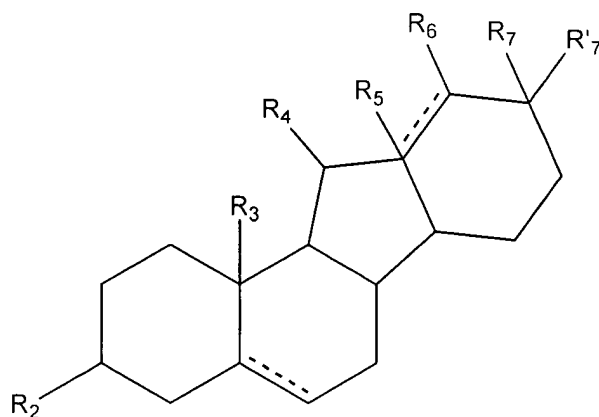
R_6 and R_7 , or R_7 and R'_7 , taken together form a ring or polycyclic ring;

with the proviso that at least one of R_6 , R_7 , or R'_7 is present and includes a primary or secondary amine;

R_8 represents an aryl, a cycloalkyl, a cycloalkenyl, a heterocycle, or a polycycle; and

m is an integer in the range 0 to 8 inclusive.

39. (New) The method of claims 1, 27, 28, or 36 wherein the composition comprises a compound represented in the general formula (II), or unsaturated forms thereof and/or seco-, nor- or homo-derivatives thereof:



Formula II

wherein

R_2 and R_4 , independently for each occurrence, represent one or more substituents selected from hydrogen, halogens, alkyls, alkenyls, alkynyls, aryls, hydroxyl, $=O$, $=S$, alkoxyl, silyloxy, amino, nitro, thiol, amines, imines, amides, phosphoryls, phosphonates, phosphines, carbonyls, carboxyls, carboxamides, anhydrides, silyls, ethers, thioethers, alkylsulfonyls, arylsulfonyls, selenoethers, ketones, aldehydes, esters, or $-(CH_2)_m-R_8$;

R_3 , and R_5 , independently for each occurrence, represent one or more substituents selected from hydrogen, halogens, alkyls, alkenyls, alkynyls, aryls, hydroxyl, alkoxyl, silyloxy, amino, nitro, thiol, amines, imines, amides, phosphoryls, phosphonates, phosphines, carbonyls,

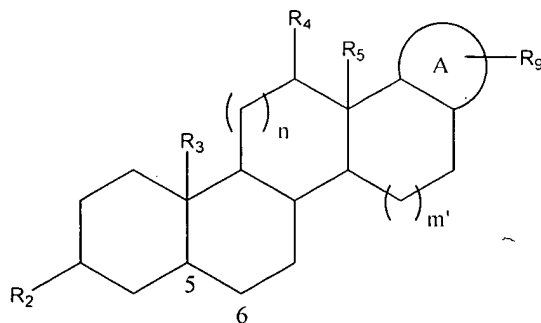
carboxyls, carboxamides, anhydrides, silyls, ethers, thioethers, alkylsulfonyls, arylsulfonyls, selenoethers, ketones, aldehydes, esters, or $-(CH_2)_m-R_8$;

R_6 , R_7 , and R'_7 are absent or represent, independently, halogens, alkyls, alkenyls, alkynyls, aryls, hydroxyl, $=O$, $=S$, alkoxyl, silyloxy, amino, nitro, thiol, amines, imines, amides, phosphoryls, phosphonates, phosphines, carbonyls, carboxyls, carboxamides, anhydrides, silyls, ethers, thioethers, alkylsulfonyls, arylsulfonyls, selenoethers, ketones, aldehydes, esters, or $-(CH_2)_m-R_8$, or

R_6 and R_7 , or R_7 and R'_7 , taken together form a ring or polycyclic ring, with the proviso that at least one of R_6 , R_7 , or R'_7 is present and includes a primary or secondary amine;

R_8 represents an aryl, a cycloalkyl, a cycloalkenyl, a heterocycle, or a polycycle; and m is an integer in the range 0 to 8 inclusive.

40. (New) The method of claims 1, 27, 28, or 36, wherein the composition comprises a compound represented in the general formula (III), or unsaturated forms thereof and/or seco-, nor- or homo-derivatives thereof:



Formula III

wherein

R_2 , R_3 , R_4 , and R_5 represent one or more substitutions to the ring to which each is attached, independently for each occurrence, selected from hydrogen, halogens, alkyls, alkenyls, alkynyls, aryls, hydroxyl, $=O$, $=S$, alkoxyl, silyloxy, amino, nitro, thiol, amines, imines, amides, phosphoryls, phosphonates, phosphines, carbonyls, carboxyls, carboxamides, anhydrides, silyls, ethers, thioethers, alkylsulfonyls, arylsulfonyls, selenoethers, ketones, aldehydes, esters, or $-(CH_2)_m-R_8$;

A represents a monocyclic or polycyclic group;

R₈ represents an aryl, a cycloalkyl, a cycloalkenyl, a heterocycle, or a polycycle;

R₉ represent one or more substitutions to the ring A, which, independently for each occurrence, are selected from halogens, alkyls, alkenyls, alkynyls, aryls, hydroxyl, =O, =S, alkoxy, silyloxy, amino, nitro, thiol, amines, imines, amides, phosphoryls, phosphonates, phosphines, carbonyls, carboxyls, carboxamides, anhydrides, silyls, ethers, thioethers, alkylsulfonyls, arylsulfonyls, selenoethers, ketones, aldehydes, esters, or -(CH₂)_m-R₈;

m is an integer in the range 0 to 8 inclusive;

n is zero; and

m' represents zero, 1 or 2;

with the proviso that A and R₉ taken together include at least one primary or secondary amine.
